

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 10

REMARKS

Reconsideration of the above identified patent application is respectfully requested. After the amendment, claims 1-3, 6-7, 11-15, 19-22, 24-28, 30-31, 38-39, 43, 52-59, and 61-62 should be pending in the application. Claims 1-3, 25, 28, 30, 38-39, 43, 53-55, and 57 are amended and claims 61-62 are added to more particularly point out and distinctly claim the subject matter of the present invention. The rejection under 35 U.S.C. 103(a) as conceivably applied to the amended claims are respectfully traversed.

I. Summary of the Invention

As defined in amended claim 1, the present invention is directed to an inductive power receiving apparatus for use with a separate portable electrical device that is not able on its own to receive power wireless by electromagnetic induction. The apparatus enables the device to receive power wirelessly by electromagnetic induction. The apparatus includes an inductive power-receiving element and one or more power connectors for connecting the element to corresponding power connectors on the portable electrical device. The power receiving element is applied to the inside of the device and is adapted to receive power wirelessly by electromagnetic induction.

As defined in independent claim 28, the inductive power-receiving element is in the form of a sticker adapted to be attached adhesively to a surface portion of the separate portable electrical device.

As defined in independent claim 38, the present invention is a method of detaching a replaceable cover portion that forms the rear of the battery compartment for a remote

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 11

device that is not capable of receiving inductive power and attaching a different replaceable cover portion to the device to form the rear of the battery compartment, where the replaced cover includes an inductive power receive element adapted to receive power wirelessly.

As defined in independent claim 54, the present invention is a replacement cover for a portable device that is not able on its own to receive power wirelessly through electromagnetic induction. The cover includes a body, an inductive power-receiving element on the body, and one or more power connectors electrically connected to the power receiving element and adapted to connect to one or more corresponding power connectors of the portable electrical device. The cover enables the device to receive power wirelessly through electromagnetic induction. The replacement cover is adapted to cover the battery compartment of the portable electrical device.

As defined in new independent claim 61, the inductive power-receiving element is adapted to be attached mechanically to a separate portable device that is not able on its own to receive power wirelessly. The inductive power-receiving element includes an electrical connector for making an electrical connection to a power connector of the device. The mechanical attachment between the inductive power-receiving element and the portable electrical device is separate from the electrical connection.

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 12

III. Prior Art Rejection

As previously presented, claims 1-3, 6-7, 11-15, 19-22, 24-28, 30-31, 38-39, 43, 52-59 were rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Publication WO 96/02879 to Kikinis et al in view of U.S. Publication 2005/0192062 to Mickle et al and in view of U.S. Patent 7,392,068 to Dayan.

In making the above-noted rejection, the Examiner refers to the Fig. 18 embodiment in Kikinis, which is described at page 33 of Kikinis. The Kikinis device 10 is a μ PDA 10 having a solar charger panel 98. The μ PDA 10 is capable of operating either (a) in stand-alone mode or (b) when docked to a host computer. See pages 11-12 and Fig. 3. The host computer can transfer data and software into and out of a docked μ PDA memory.

The Kikinis μ PDA includes a battery 15 described on page 11 as follows:

A battery 15 is the power source in the stand-alone mode, and may be recharged in one or more of several ways. The power traces are not shown in Fig. 3, but extend to all of the powered devices in the μ PDA module. When the unit is docked in the host, the host power source may be connected to pins through the host interface to recharge the battery. Alternatively, an attached means such as a solar panel may be configured to charge the battery and/or provide power to the μ PDA. A solar panel for power is described elsewhere in this disclosure. Also the battery may be easily removed for periodic replacement.

The Kikinis μ PDA further includes a solar charger 98 described on page 33 as follows:

Solar charger 98 may be permanently wired to the circuitry of the μ PDA or attached by other means and connected to a dedicated electrical part or the expansion port. The solar charger is laced so that the μ PDA can be fully docked in a docking port with the panel in place. In other aspect [not shown], a detachable solar

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 13

charger may be unplugged before docking the μ PDA, and the detachable charger may then be of a larger surface area.”

As further described on page 33:

[T]he solar charger absorbs the solar energy and converts it to electricity to recharge [sic] battery 15 inside the μ PDA.

The μ PDA of Kikinis is entirely different from the claimed subject matter in amended claims 1, 28, 38, 54, and 61. The μ PDA of Kikinis does not supply power to the host computer. Quite to the contrary, the μ PDA is powered by the host computer to recharge its battery 15. Consequently, the power flow in Kikinis is directly opposite to the power flow of the apparatus and method defined in these claims. So, the μ PDA in Kikinis always requires power whether it comes from the host computer or from the solar panel to charge the battery 15 within the μ PDA. The μ PDA does not provide power to any other device.

Mickle is cited only for its disclosure of an apparatus adapted to receive power wirelessly through an RF signal. As illustrated in Fig. 1 and described in paragraph 0030:

The transmission of energy 30 can be through RF. The remote station 4 has a means for receipt of the transmitted energy 30 and converting the transmitted energy 102 into DC power for energizing the power storage device 150 on the object of interest. The receipt of the transmitted energy 30 on the remote station 4 of this invention is through one or more antennae 100 on the remote station wherein at least one antenna 20 has effective antenna area 22 greater than its physical area 21.

The Office Action concedes that Kikinis and Mickle both fail to teach an inductive-receiving element for use with a separate device that is not able on its own to receive power wirelessly, where the inductive-receiving element delivers power received to the device. The Office Action recites Dayan for this feature.

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 14

The Dayan notebook computer 112 includes an adaptor unit 118 described in Fig. 9 and Col. 8 Lns. 17-34 as follows:

FIG. 9 shows one case in which an adaptor unit or piece 118 is releasably secured to a notebook computer 112. The notebook computer 112 is shown from a lower rear-end and includes a base section 114 and a lid section 116. As can be seen in FIG. 9 of the drawings, the notebook computer 112 is slightly opened with the lid section 116 spaced from and hingedly connected to the base section 114. The adaptor piece 118 is attached to an underside of the base section 114 using, for example, hook-and-pile fasteners, mounting tape, or any other suitable fastening arrangement including but not limited to screws, bolts, glue, cement, snaps etc. The adaptor unit 118 has, in this example, three separate areas 120, 122 and 124 as can be seen. The areas 120 and 124 may be conductive surfaces and the area 122 may be an insulator. A cable 126 is used to connect the adaptor unit 118 to the notebook computer 112 via a regular power supply port of the notebook computer 112.

The Dayan notebook computer 112 can be charged a conductive mat as described in Fig. 8 and Col. 7 Lns. 61-64:

FIG. 8 of the drawings shows a desk 100 on which is placed a desk mat 102. The desk mat 102 includes a conductive area 12 with electrical contacts as described above. The desk mat 102 may be integrated into the desk 100.

Applicants submit that there is no motivation to combine the adaptor feature of Dayan with Mickle and Kikinis to arrive at the subject matter recited in independent claims 1, 28, 38, 54, or 61. The Office Action reasons that there is motivation to combine Dayan, Mickle, and Kikinis because it would increase the mobility of the device during charging. See May 26 Office Action, Pg. 4. Admittedly, Dayan touts additional mobility as the reason for its adaptor feature. However, the additional mobility is discussed relative to a conventional electrical

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 15

interconnection that requires accurate alignment of electrical contact pins before charging can take place. See Dayan Col. 1 Lns. 35-42. That is, Dayan's adaptor allows a notebook computer to charge as long as it is in contact with a conductive mat, thereby increasing mobility relative to a conventional electrical interconnection that requires a fixed special relationship. To the extent that Dayan, Kikinis, and Mickle can be combined, the Dayan adaptor would not increase mobility relative to Kikinis or Mickle either alone or in combination. The only conceivable result of the combination of Kikinis and Mickle would be a μ PDA with an onboard battery charged by energy received (1) through an integral RF antenna or (2) from a host computer. There would be no reason to add the Dayan adaptor to such a combination because it would not increase mobility of the device. In fact, the only conceivable result of the combination would reduce mobility by tethering the μ PDA to a conductive mat in order to charge by direct electrical contact. There does not appear to be any reason to combine the Dayan adaptor with Kikinis and Mickle. Rather, it seems that the only way to combine these references to arrive at the claimed invention would be to rely on impermissible hindsight using the present invention as a blueprint.

With respect to independent claim 1, none of Dayan, Kikinis, or Mickle disclose an inductive power-receiving element adapted to be applied to the inside of the device. As conceded in the Office Action, Kikinis and Mickle fail to teach a power-receiving element for use with a separate device. Accordingly, they cannot teach an inductive power-receiving element adapted to be applied to the inside of a separate device. Dayan admittedly does disclose an adaptor for a notebook computer that enables it to receive power through contacting a conductive mat. However, nothing in Dayan teaches or suggests an inductive power-receiving

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 16

element adapted to be applied to the inside of a separate device. The Dayan adaptor is attached to the outside surface of the notebook computer so that it can contact the conductive mat. The positioning of the adaptor in Dayan teaches away from applying the adaptor inside the device. In fact, the adaptor would be inoperable from inside the device because the contacts would not be able to contact the conductive mat.

With respect to independent claim 38, none of Dayan, Kikinis, or Mickle disclose a method of adapting a portable electrical device having no inductive power receiving capability to have such a capability by detaching a replaceable cover portion not capable of receiving inductive power that forms the rear of the battery compartment and attaching a different replaceable cover portion to the device to form the rear of the battery compartment. As has been discussed, Kikinis and Mickle fail to teach a power-receiving element for use with a separate device so they cannot disclose this feature. As mentioned above, Dayan teaches an adaptor that is "attached to an underside of the base section [of the notebook computer]." Dayan does not teach or suggest a method of adapting a portable electrical device having no inductive power receiving capability to have such a capability by detaching a replaceable cover portion not capable of receiving inductive power that forms the rear of the battery compartment and attaching a different replaceable cover portion to the device to form the rear of the battery compartment, as recited in independent claim 38.

With regard to independent claim 54, there is no suggestion in Kikinis, Mickle, or Dayan of (1) a portable device that is not able on its own to receive power wirelessly by electromagnetic induction, (2) a replacement cover for a portable device, or (3) an inductive

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 17

power receiving element on or in the body of the replacement cover and adapted to receive power wirelessly by electromagnetic induction. As has been discussed, Kikinis and Mickle fail to teach a power-receiving element for use with a separate device so they cannot disclose this feature. Dayan teaches an adaptor that is “attached to an underside of the base section [of the notebook computer].” Dayan does not teach or suggest a replacement cover including an inductive power-receiving element on or in the body and adapted to receive power wirelessly by electromagnetic induction from a transmitter of power when the element and transmitter are in proximity with one another wherein said replacement cover is adapted to cover the battery compartment of the portable electrical device.

For the foregoing reasons, it is respectfully submitted that the rejection of independent claims 1, 28, 38, and 54 – and any conceivable rejection of independent claim 61 – under Section 103(a) on the basis of Kikinis, Mickle and Dayan is unfounded and/or overcome, and therefore should be withdrawn.

The dependent claims further define the invention and are therefore allowable at least for the reasons set forth above in conjunction with their respective independent claims. Additionally, the dependent claims provide a variety of additional recitations supporting patentability.

Applicants : Pilgrim G.W. Beart
App. No. : 10/539,062
Page No. : 18

IV. Conclusion

In view of the above amendments and these remarks, it is respectfully submitted that the present application is in condition for allowance. A notice to that effect is earnestly and respectfully requested.

Respectfully submitted,

ACCESS BUSINESS GROUP
INTERNATIONAL LLC

By: Warner Norcross & Judd LLP

/Dustin H. Shunta/
Dustin H. Shunta
Registration No. 56,507
900 Fifth Third Center
111 Lyon Street, N. W.
Grand Rapids, MI 49503-2487
(616) 752-2194